

Your Ref: TP/IP/54791/2020  
Our Ref : CI/TPD21000243/P

24<sup>th</sup> February 2021

**General Investigation Team**

Traffic Police Department  
Singapore Police Force  
10 Ubi Avenue 3  
Singapore 408865

**MECHANICAL INSPECTION REPORT OF MOTOR CAR SMA 4853U**

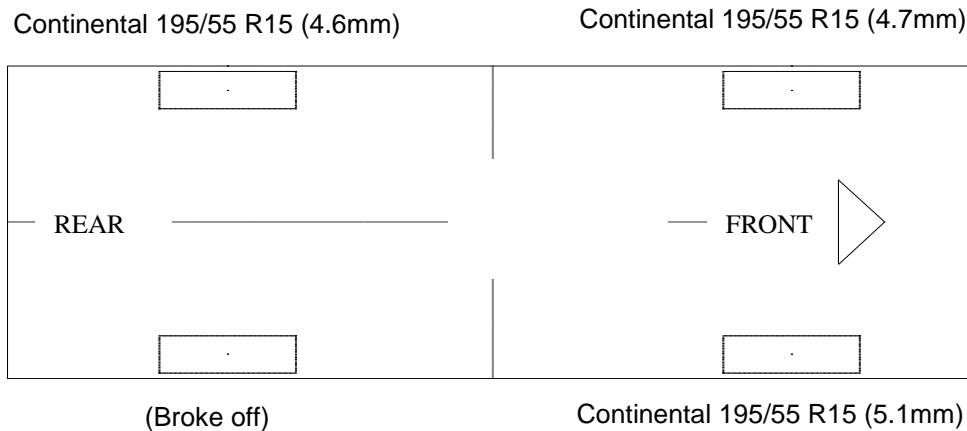
1. I refer to your request on 5<sup>th</sup> January 2021 to conduct a physical inspection of a Motor car bearing registration number SMA 4853U (herein referred to as "**Motor Car**"), which was involved in a road traffic accident on 11<sup>th</sup> December 2020.
2. The objective of the inspection is to determine if there was any possible mechanical failure to the Motor car that may have contributed to the accident.
3. Following the request, I had carried out a physical inspection of the Motor Car on 23<sup>th</sup> February 2021 at the premises of Traffic Police vehicle pound, 517 Airport Road Singapore 539942. I now set out below my observations and comments with respect to this inspection.

**General Condition**

4. The mileage of the Motor car was not recorded due to damage to the engine system as a result of the accident.
5. The Motor car was observed to have sustained damage all around. Its front bonnet, front bumper, left and right body panel and rear bonnet was amongst the body parts and various components in the engine compartments were also damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.

## Tyres and Wheel Rims

6. The rear right wheel rim was observed to be broke off from the Motor Car as a result of the accident. However the condition of the Motor car's other 3 tyres was observed to be in serviceable condition. I did not find any tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 3 tyres. The 3 tyres were also observed to be sufficiently inflated for vehicular operation. The tyre brand, tyre size and remaining tread depth of the 3 tyres were recorded as follows:-



7. The rear right wheel rim was observed to be broken off as a result of the accident. However, the other 3 tyres were observed to be wrapped around alloy wheel rims that were found to be without any damage. See photo 1 – 17 below.



**Photo 1** shows a general view of the Motor Car's rear body at the time of my inspection. The rear portion of the Motor Car was observed to have sustained damaged as a result of the accident.



**Photo 2** shows a general view of the Motor Car's rear body at the time of my inspection. Its rear windscreen and rear bonnet (red circle), rear bumper (yellow circle) and its rear right brake lamp (arrowed) was amongst the body parts that were also damaged as a result of the accident.



**Photo 3** shows a close up view of the Motor Car's rear body at the time of my inspection. Its rear windscreen (red circle) and rear bonnet (yellow circle) was amongst the body parts that were also damaged as a result of the accident.



**Photo 4** shows a close up view of the Motor Car's rear body at the time of my inspection. Its rear bumper (circled) and its rear right brake lamp (arrowed) was amongst the body parts that were also damaged as a result of the accident.





**Photo 5** shows a general view of the Motor Car's front body at the time of my inspection. Its front bonnet and front bumper was amongst the body parts and various components in the engine compartments were also damaged as a result of the accident. The Supplemental Restraint System (SRS) was activated as a result of the accident.



**Photo 6** shows the close up view of the Motor Car's front body at the time of my inspection. Its front bonnet (red circle) and front bumper (yellow circle) was amongst the body parts and various components in the engine compartments were also damaged as a result of the accident.



**Photo 7** shows the close up view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its alternator (yellow circle) and body reinforcement panel (red circle) was amongst the various components in the engine compartments were also damaged as a result of the accident.



**Photo 8** shows the close up view of the Motor Car's front body at the time of my inspection. The Motor car was observed to have sustained damage at its front portion. Its engine radiator (circled) and air filter box (red arrow) was amongst the various components in the engine compartments were also damaged as a result of the accident.





**Photo 9** shows the general view of the Motor Car's right body at the time of my inspection. The Motor car was observed to have sustained damage at its right portion. Its right body panel was damaged as a result of the accident.



**Photo 10** shows the close up view of the Motor Car's right body at the time of my inspection. The Motor car was observed to have sustained damage at its right portion. Its right body panel (circled) was damaged as a result of the accident.



**Photo 11** shows the general view of the Motor Car's left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its left body panel was damaged as a result of the accident.



**Photo 12** shows the close up view of the Motor Car's left body at the time of my inspection. The Motor car was observed to have sustained damage at its left portion. Its left body panel (circled) was damaged as a result of the accident.





**Photo 13** shows the condition of the front right tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 5.1mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 14** shows the condition of the rear right tyre and rim of the Motor Car, the wheel rim was observed to be broken off as a result of the accident



**Photo 15** shows the condition of the rear left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4.6mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 16** shows the condition of the front left tyre of the Motor Car, which was observed to be in serviceable condition with remaining tread depth of approximately 4.7mm. The tyre was also observed to be sufficiently inflated for vehicular operation with no tear, cut or burst mark(s).



**Photo 17** shows the deployment of the Supplemental Restraint System (SRS) airbag in the Motor Car as a result of the accident.

### **Engine Compartment & Operating Fluids**

8. We were unable to raise the front bonnet of the Motor Car to conduct the examination of the Motor Car's engine compartment because the damage caused by the accident had resulted in the damages to the lock mechanism of the bonnet and the structure of the engine compartment. (unable to open)  
See photo 18 below





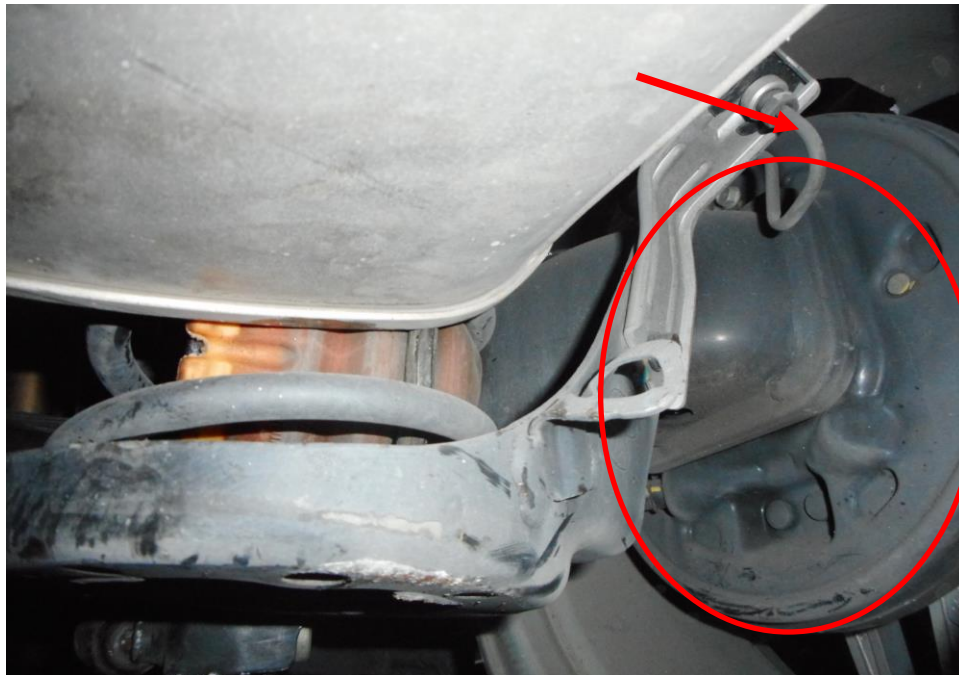
**Photo 18** shows a close up view of the damaged front bonnet lock mechanism and the structure of the engine compartment of the Motor Car at the time of my inspection resulting it unable to open a result of the accident (circled) (Unable to open)

### **Braking System & Steering System**

9. For this inspection, I was not able to conduct any tests on the steering system of the Motor Car due to the Motor Car running on electric power steering (EPS) which requires the Motor Car to be started and engine system was damaged as a result of the accident. (Unable to be started)
10. Static brake tests were not conducted on the Motor Car due to the jammed doors which was caused by the accident has blocked access into the vehicle to conduct the test.
11. My visual examination of the various steering and braking components which had included the rack and pinion, tie rods, tie rod ends and ball joints, brake hoses and brake pipes had revealed that these components were all generally intact. However, the steering tie rod of the front left wheel was observed to be damaged as a result of the accident See photo 19 - 24 below.



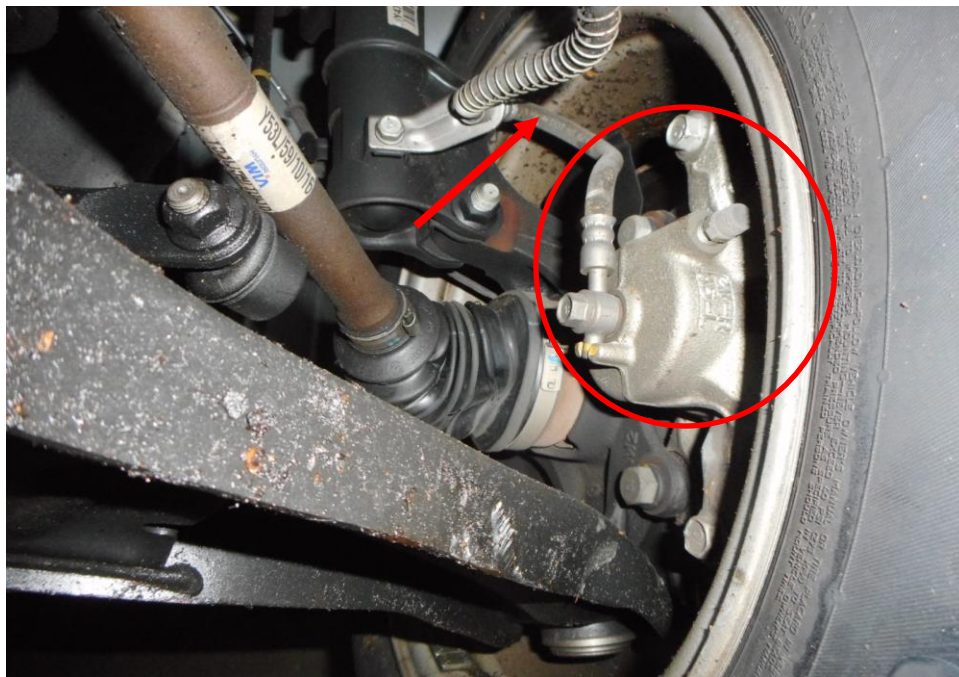
**Photo 19** shows the brake drum (circled) and brake hose/pipe (arrowed) at the rear left wheel of the Motor Car and it was observed to be intact



**Photo 20** shows the brake drum (circled) brake hose/pipe (arrowed) at the rear right wheel of the Motor Car and it was observed to be intact

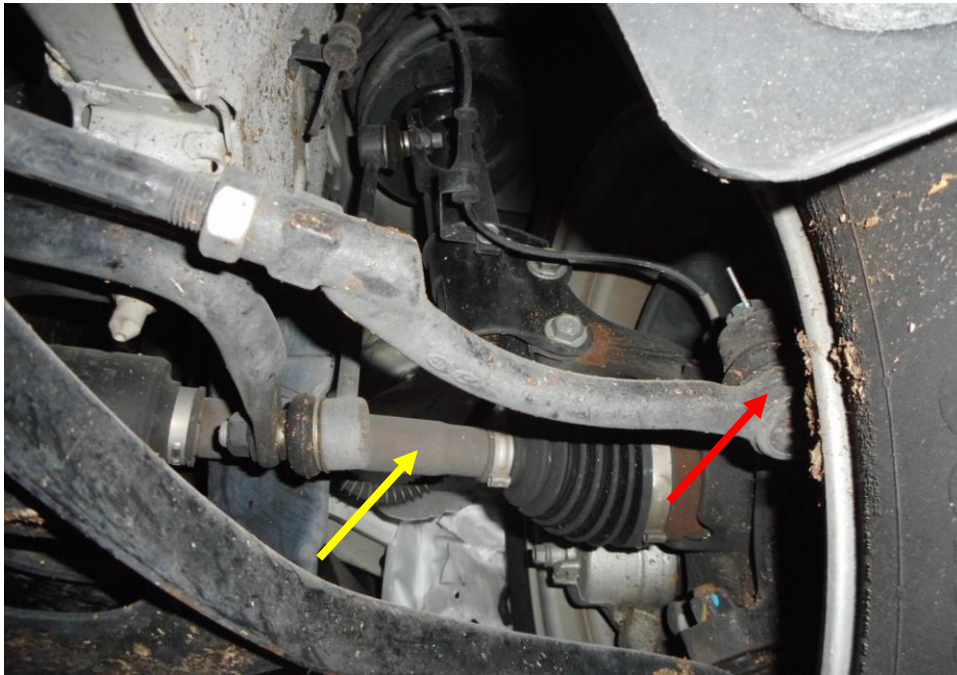


**Photo 21** shows the brake hose/pipe (arrowed) at the front right wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled) brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.



**Photo 22** shows the brake hose/pipe (arrowed) at the front left wheel of the Motor Car. No leakage of brake fluid was observed. Visual examination of the various components of the braking system like the brake caliper (circled), brake pedal etc had revealed all to be intact and without visible damage at the time of accident. There was also no sign of fluid stain(s) observed on the various undercarriage components.





**Photo 23** shows the various undercarriage components at the front right wheel of the Motor Car, in particular the steering tie rod end (arrowed) and drive shaft (yellow arrow). The various steering components were all found to be intact, there was no sign of fluid stain(s) observed on the various undercarriage components.



**Photo 24** shows the various undercarriage components at the front left wheel of the Motor Car, in particular the steering tie rod end (arrow) was observed to be damaged as a result of the accident.

### **Electronic Safety / Warning Indicators**

12. The Motor Car's automatic self-test of the functionality of its various electronic operating systems was not able to be conducted as there was damaged to engine system as a result of the accident. (unable to be started)

### **Seat Belts**

13. The front right and left seat belts of the "Motor Car" was worn at the material time of accident, as the respective pre-tensioners that were fitted at the side of each seat was activated upon the material time. See photo 25 and 26 below.



**Photo 25** shows that that the seat belt on the right seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.



**Photo 26** shows that that the seat belt on the left seat was worn at the material time of accident as the safety pre-tensioners was activated at the moment of impact and caused the seat belt to be locked into the last position.

### **Operational Behaviour of the Motor Car**

14. Operational test to primarily determine whether there was any abnormality to the engine system, transmission system and braking system of the Motor Car could not be conducted given the extent of damage that it had sustained (Engine systems of the Motor Car damage as a result of the accident.).

### **Conclusion**

15. For this particular case, I was unable to determine whether there was any possible mechanical failure to the Motor Car that may have contributed to the accident. The extent of damage that it had sustained had prevented me from carrying out any operational test(s) and/or static test(s) to its engine system, transmission system, braking system, steering system and suspension system.



16. The rear right tyre and wheel rim was broken off as a result of the accident. However, all the other 3 tyres of the Motor Car were also found to be in serviceable condition. I did not find any tear, cut or burst mark(s) on the outer and the inner sidewalls as well as across the tread of the 3 tyres. All the other 3 tyres were observed to be sufficiently inflated for vehicular operation. All 3 tyres were observed with remaining tread depth of approximately 4.6mm to 5.1mm.



**Sherwin Beh**  
*Technical Investigator*



**Ang Bryan Tani**  
*AMSOE, AMIRTE, AFF SAE, M.MATAI, AFF.Inst.AEA*  
*Senior Technical Investigator*  
*Technical Investigation & Reconstructionist (SAE-A)*

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